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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

D-1534

Applicant : Tatsuya Araki et al.
Title : X-RAY EQUIPMENT
Serial No. : 10/673,386
Filed : September 30, 2003
Group Art Unit : 2882
Examiner : Chih-Cheng Glen Kao

Hon. Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

May 15, 2006

APPEAL BRIEF

Sir:

This is an appeal from the final rejection of the Examiner dated December 28, 2005. If fee is required, please charge to Deposit Account No. 11-0219.

REAL PARTY IN INTEREST

The applicant is the real party in interest.

RELATED APPEALS AND INTERFERENCES

An Appeal was filed on July 26, 2005 and an Appeal Brief was submitted on August 4, 2005. The examination was reopened without a decision.

STATUS OF CLAIMS

Claims 1 through 8 have been canceled, and claims 9 and 10 stand rejected in their amended forms.

Accordingly, claims 9 and 10, as reproduced in the Claims Appendix hereof in their entirety, are all of the claims currently pending and at issue.

STATUS OF AMENDMENT

A timely Appeal Brief (hereinafter "First Appeal Brief") was submitted on August 4, 2005. In such First Appeal Brief, the Examiner's rejection under 35 U.S.C. § 103(a) of claims 1 and 9 (as then of-record) over U.S. Patent No. 6,126,314 to Morasse (hereinafter "Morasse") in view of Applicant's admission of prior art (hereinafter "Applicant's Admitted Prior Art"), were respectfully appealed. The Appeal Brief also noted that claims 2-8 (as then of-record) stood objected to as being dependent upon rejected independent base claim 1, but would be allowable if rewritten in independent form including all of the limitations of independent claim 1.

In response to the First Appeal Brief, and without a review by the Board of Patent Appeals and Interferences, the Examiner reopened prosecution on the merits by issuing a new Office Action on October 12, 2005. In such Office Action, claims 1 and 9 (as then of-record) were rejected under 35 U.S.C. § 102(a) over Applicant's

Admitted Prior Art, and claims 2-8 (as then of-record) continued to be considered allowable subject matter for the foregoing reasons.

In response, Applicant submitted an Amendment on December 16, 2005, wherein independent claim 1 (as then of-record) was amended, and claim 10 was newly added, with not amendments to the remaining claims.

In response, the Examiner issued a Final Office Action on December 28, 2005, wherein claims 1-10 (as then of-record) were rejected under 35 U.S.C. § 112, second paragraph, claims 1, 9 and 10 (as then of-record) were rejected under 35 U.S.C. § 102(a) over Applicant's Admitted Prior Art, and claims 2-8 (as then of-record) continued to be considered allowable subject matter for the foregoing reasons.

In view of the rejection, an interview was made on March 13, 2006 between the Examiner and Applicant's representative with regard to a proposed amendment. The Examiner issued an Interview Summary on March 17, 2006, wherein the proposed amendment would be rejected on grounds that it would raise new issues that would require further consideration or search.

In view of the above interview, Applicant submitted an Amendment After Final Action on March 16, 2006, wherein claims 1-8 (as then of-record) were canceled, and claim 9 was amended to incorporate the recitations of canceled claim 1, with no amendments to claim 10. A Notice of Appeal was also submitted on such date.

On March 29, 2006, the Examiner issued an Advisory Action, wherein claims 1-10 were rejected, and entry of the amendment was rejected on the ground that the amendment raised new issue.

Following another interview between the Examiner and Applicant's representative, the Examiner issued another Advisory Action, and a corresponding Interview Summary, wherein the Examiner considered the rejection of claims 1-10 under 35 U.S.C. § 112, second paragraph, to be overcome, and wherein the amendments to claim 9 were permitted entry for purposes of appeal.

Accordingly, claims 9 and 10, in the form presently provided, are properly entered for purposes of appeal, and stand rejected under 35 U.S.C. § 102(a) over Applicant's Admitted Prior Art. There

are no other claims pending before this Board. There are not other grounds of rejection pending before this Board.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to X-ray equipment that includes a cassette storage box to house radiographic storage medium, such as film.

Applicant's admitted prior art is set forth in pages 1, 2 of the specification, and Figs. 8-10. Referring to Fig. 8 and 10, the conventional X-ray cassette includes a mobile carriage 51, and a cassette storage box 52 rotatable about axis 56 to open from the closed position shown in Fig. 8 to the open position shown in Fig. 10. A hook 53, spring 55 and pin 54 assembly is used to keep the cassette storage box in the closed position shown in Fig. 8. Specifically, spring 55 used to exert downward pressure on the hook 53 against pin 54 in the closed position.

The device has the disadvantage of requiring two-handed operation. For an operator to achieve the open position shown in Fig. 10, wherein the film can be inserted, one hand must be used to unhook the hook 53 from the pin 54 by applying an upward pressure against the downward urging of spring 55, and the other hand must be used to draw back the handle 52A. In the open position of Fig. 10, the operator must continue to hold onto the handle 52A, while simultaneously holding up the hook 53, against the pressure of spring 55, to keep the hook from being pushed down to the locked state of Fig. 8. (specification, page 2, paragraph 0006)

Referring to Applicant's Fig. 1, a self-propelled movable carriage 1 has an X-ray tube mounted to it. A cassette storage box 3 opens and closes for adding and removing a film cassette 4. Referring to Applicant's Fig. 2, cassette storage box 3 can be opened and closed in relation to carriage 1 by rotation about axis 8.

A storage box locking means 9 includes hook 12 for latching pin 10 against the force of a spring 15. A locking release holding means 14 includes spring 15, stopper 16 and opening 17. Spring 15, provided on the side surface of carriage 1, is mounted at one end

by movable spring engagement piece 19 to hook 12, and on the other end to an immovable spring engagement projection 18, the latter being mounted onto carriage 1. Hook 12 may rotate about axis 13.

The foregoing assembly is uniquely devised such that when hook 12 engages pin 10, axis 13 is positioned above spring 15, but when hook 12 is away from pin 10, axis 13 is below spring 15. (specification, page 10, paragraph 0029) In addition, upon lifting of hook 12, to open cassette storage box 3, stopper 16 on hook 12 is prevented from rising higher than the internal ceiling of opening 17, thereby preventing hook 12 from lifting further. The result is a structure where without any intervention by an operator, hook 12 stays open, or in the higher position, i.e., does not return to the locking position, even when the cassette storage box is in the open position as shown in Fig. 5.

Independent claim 9 sets forth the foregoing carriage, X-ray tube, storage box locking means, and the locking release holding means.

Namely, the X-ray equipment in claim 9 comprises

a carriage (1),

an X-ray tube (2) mounted on the carriage (1) for irradiating X-rays,

a cassette storage box (3) pivotally attached to the carriage for storing a cassette (4) with a radiographic storage medium,

storage box locking means (9) engaging the cassette storage box (3) for locking the cassette storage box in a locked state (Figs. 2 and 3), and

locking release holding means (14) attached to the storage box locking means (9) for holding the storage box locking means (9) in a released state (Figs. 4 and 5) so that the storage box locking means (9) is released from the locked state,

wherein said locking release holding means (14) includes an elastic member (14) for urging the storage box locking means (9) in the locked state (Figs. 2 and 3) when the storage box locking means (9) is locked, and for urging the storage box locking means (9) in the released state (Figs. 4 and 5) when the storage box locking means is released.

Claim 10, which depends from claim 9, is directed to the locking release holding means further including means (16, 17) for limiting the movement of the storage box locking means between the release position and the lock position of the storage box.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 9 and 10, the only claims pending, stand rejected under 35 U.S.C. § 102(a) over Applicant's Admitted Prior Art.

ARGUMENT

Claims 9 and 10 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Applicant's Admitted Prior Art, namely Applicant's "Background of the Invention and Related Art Statement, constituting pages 1 and 2 of Applicant's specification, and accompanying Figs. 8-10. The rejection is respectfully appealed.

There is no disclosure, hint or suggestion in Applicant's Admitted Prior Art for providing a locking release holding means as claimed. In addition, and in particular, there is no disclosure therein of the locking release holding means including "an elastic member for urging the storage box locking means in the locked state when the storage box locking means is locked, and for urging the storage box locking means in the released state when the storage box locking means is released."

In fact, the Applicant's Admitted Prior Art clearly describes a problem in the prior art, namely that in the open position of the cassette storage box 52, as shown in Applicant's Fig. 10, the operator must continue to hold hook 53 in the open position against the force of spring 55, to prevent hook 53 from returning to the locked position. (specification, page 2, paragraph 0006)

It is indeed this very problem that Applicant's claim 9 solves through recitation of the locking release holding means that holds the storage box locking means in the release state such that the locking means is released from the locking state. Referring to Applicant's admitted prior art, page 2, paragraph 0006, "when the

gateway of the cassette storage box 52 is opened or closed, the operator has to pull and tilt the cassette storage box 52 or push back the cassette storage box 52 with one hand while the operator needs to lift up the hook 53 with the other hand *in order to keep releasing the hook 53 from the locked state.*" (emphasis added) The foregoing provides the disadvantage of requiring two-handed operation, as stated by Applicant.

Referring to Applicant's Fig. 3, a locking release holding means 14 includes spring 15, stopper 16 and opening 17. Spring 15 is provided on the side surface of carriage 1. The spring 15 is mounted at one end by movable spring engagement piece 19 to hook 12, and on the other end to an immovable spring engagement projection 18, the latter being mounted onto carriage 1. Hook 12 may rotate about axis 13. *This assembly is uniquely devised so that when hook 12 engages pin 10, axis 13 is positioned above spring 15, but when hook 12 is away from pin 10, axis 13 is below spring 15.* Accordingly, in the claimed invention, spring 15 (or another elastic member) may perform the dual functions of urging the storage box locking means in a locked state or in an unlocked state. The result is a structure where without any intervention by an operator, hook 12 stays open, or in the higher position, i.e., does not return to the locking position, even when the cassette storage box is in the open position as shown in Fig. 5.

In the Office Action dated December 28, 2005, the Examiner states that spring 55, illustrated in Fig. 8 of the Applicant's Admitted Prior Art, is a lock release holding means, for holding the storage box locking means (hook 53) in a released state, which the Examiner interprets as a state wherein pin 54 is not engaged with hook 53. Such construction cannot apply, for as visible from Fig. 8 and the accompanying description, spring 55 performs the opposite function, namely of urging hook 53 toward pin 54.

In fact, Applicant's Admitted Prior Art is in fact replete with the notion that the prior art lacks a device analogous to the claimed locking release holding means. Page 2 of the specification, paragraph 0003 states: "the hook 53 is always urged downwardly with a spring 55 provided on the carriage 51." Accordingly, in the prior

art, the spring 55 must always be overcome by human force while the cassette storage box 52 is open (Fig. 10). Spring 55 simply cannot be used to keep the locking apparatus in an unlocked position, as set forth in Applicant's Admitted Prior Art. Accordingly, the device disclosed in Applicant's admitted prior art does not and cannot provide the claimed locking release holding means as claimed.

Furthermore, claim 10 which depends from claim 9, is directed to the locking release holding means further including means for limiting the movement of the storage box locking means between the release position and the lock position of the storage box. There is simply no hint or teaching of the foregoing claim recitation in Applicant's Admitted Prior Art.

For the foregoing reasons, Applicant respectfully requests the Board to reverse the pending rejection of claims 9 and 10.

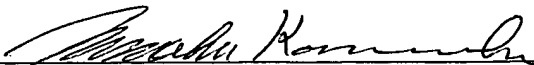
CONCLUSION

As explained above, Applicant's Admitted Prior Art does not anticipate Applicant's claims 9 and 10 of the present invention.

Accordingly, it is respectfully requested that the decision of the Examiner to reject claims 9 and 10 be reversed, and that claims 9 and 10 be presently allowed, rendering all of the pending claims allowable.

Respectfully submitted,

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CLAIMS APPENDIX

9. An X-ray equipment comprising:

a carriage,
an X-ray tube mounted on the carriage for irradiating X-rays,
a cassette storage box pivotally attached to the carriage for storing a cassette with a radiographic storage medium,

storage box locking means engaging the cassette storage box for locking the cassette storage box in a locked state, and

locking release holding means attached to the storage box locking means for holding the storage box locking means in a released state so that the storage box locking means is released from the locked state,

wherein said locking release holding means includes an elastic member for urging the storage box locking means in the locked state when the storage box locking means is locked, and for urging the storage box locking means in the released state when the storage box locking means is released.

10. An X-ray equipment according to claim 9, wherein said locking release holding means further includes means for limiting movement of the storage box locking means between a release position and a lock position of the storage box.

EVIDENCE APPENDIX

Additional evidence has not been applied.

RELATED PROCEEDINGS APPENDIX

There were no applicable related proceedings.